

CLAIMS

1. A visual information system for use in connection with a carrier for carrying observers along a predetermined path, the system comprising an array to be located adjacent said path and consisting of a plurality of individually and selectively ^{energizable} ~~energisable~~ light sources arranged in rows and columns, a memory for storing a program representative of a predetermined image, a controller ^{actuatable} ~~actuable~~ to control the selection and sequence of ^{energization} ~~energisation~~ of the light sources within a predetermined time span corresponding to ^{the persistent} ~~the persistence~~ time of the ^{human} ~~the~~ retina to light, and in accordance with the predetermined program stored in the memory, ^{the} ~~the~~ rate of operation of the controller being set to correspond with ^{the} ~~the~~ speed of the carrier past the array, ^{such that} ~~whereby~~ an observer carried by the carrier past the array will observe said predetermined image as an apparently stationary image occupying an area substantially larger than the area of said array.
2. A system according to Claim 1, including sensing means for monitoring the passage of ^{the} ~~a~~ carrier carrying said ^{observer} ~~viewer~~ past the array to actuate said controller.
3. A system according to Claim 2, wherein said sensing means comprises infrared sensing means arranged to activate said controller upon the approach of said carrier to the array and to deactivate the controller upon the departure of said carrier away from said array.
4. A system according to Claim 3, wherein the sensing means comprises a first infrared transmitter and receiver pair located upstream of the array and a second infrared receiver and transmitter pair located downstream of the array.
5. A system according to any preceding claim, wherein the controller is arranged to cyclically repeat the ^{energizations} ~~energisations~~ specified by the predetermined program

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at regular intervals.

6. A system according ^{to claim 1} ~~any preceding claim~~, wherein
the array consists of light sources of different ^{colors} ~~colours~~
and wherein the predetermined program specifies different
5 a durations of ^{energization} ~~energisation~~ of the different ^{colored} ~~coloured~~ light
sources.

7. A system according ^{to claim 1} ~~any preceding claim~~, wherein
said controller is arranged to complete one cycle of the
predetermined program within a period of 0.015 seconds.

10 a 8. A system according ^{claim 1} ~~to any preceding claim~~,
wherein ~~the~~ ^a ratio of rows to columns in the array is 16:1
or greater.

9. A system according to Claim 1, wherein each
light source comprises a light emitting diode and the
15 controller includes a driver for driving each light
emitting diode, the driver being arranged to vary ^a ~~the~~
period for which its corresponding diode is ^{energized} ~~energised~~ in
accordance with the program stored in the memory.

20 ^{SBT} 10. An arrangement comprising a plurality of systems
each according to ~~any preceding claim~~, and a main computer
arranged to store a plurality of different programs, each ^a ~~Program~~
representing a respective image, said main computer being
operable to replace the program stored in said memories
with a program stored in said main computer.

25 ²¹ 11. An arrangement according to Claim ~~10~~, wherein
said main computer is programmed to replace the program
stored in selected ones of the memories in accordance with
the time of day.

30 ³ 12. An arrangement according to Claim ~~10~~ or
Claim 11, wherein the computer is programmed to replace
the program stored in selected ones of the memories in
accordance with ^a ~~the~~ location of their associated arrays.

35 ^{SBT} 13. A ~~transport~~ ^{having} system ^a ~~path~~ along which
carriers can pass and a visual display system located
adjacent said path, the display system ^{comprising} ~~comprises~~ a fibre

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1 a optic array in which one end of a bundle of optical ^{fibers} fibres
a is arranged so that the ends of the individual ^{fibers} fibres at
a ~~one end of the bundle~~ form a vertically elongate array of
a rows and columns and the ends of the individual ^{fibers} fibres at
5 the opposite end of the bundle are connected to an
electro-optical interface unit, control means for
supplying electrical signals to the interface unit to
cause the array to display a succession of images and
means for controlling the rate at which the control means
10 a supplies said signals in accordance with the ^a speed of ^a the
a carrier past the ^{display} system, and within a time frame related
a to ^{a persistent} the ^a persistence time of the ^a human retina to light,
a whereby ^{such that} an observer on the carrier will perceive
apparently simultaneously a single horizontally elongate
15 display consisting of said successive images located side
by side.

13 14. ^{transport} A system according to Claim 13, wherein the
a control means includes a ~~remote~~ computer for generating
data representative of a desired display, a local data
20 interface for receiving the data, and a processor for
processing the received data and storing it in a memory,
the processor being arranged to control the interface unit
to respond to the data stored in the memory. 13

14 15. ^{transport} A ^{display} system according to Claim 14, wherein
25 the carrier is a train, the path is defined by a train
a tunnel, and the array is mounted on the ^a wall of the train
tunnel and further comprising an on-board transmitter on a
a passing train to transmit ^{the} data ^{from} to the computer to supply
the interface unit with said data.

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